THREATS AND OPPORTUNITIES TO MAIL IN THE DIGITAL AGE

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Digital technologies are bringing huge changes to the communications industry in general and to the mail industry in particular. The Institute for the Future has been working on this issue for seven years as part of our Future of Global Mail Program, a research program that has included most of the largest posts on both sides of the Atlantic. The U.S. Postal Service has been a key program participant since its inception. Here I share some of the key conclusions about the impacts of digital technologies from our research.

THREE KEY DIGITAL TECHNOLOGY CLUSTERS

There are three clusters of digital technologies that will be very important for the future mail stream.

Internet Technologies

The Internet allows a wide range of people to do a variety of interactive activities remotely: send messages, gather information, browse, shop, and make purchases, to name just some. The penetration rate of the key enabling technologies has been rapid with PCs now in over 60% of homes and 57% of U.S. adults using the Internet regularly.

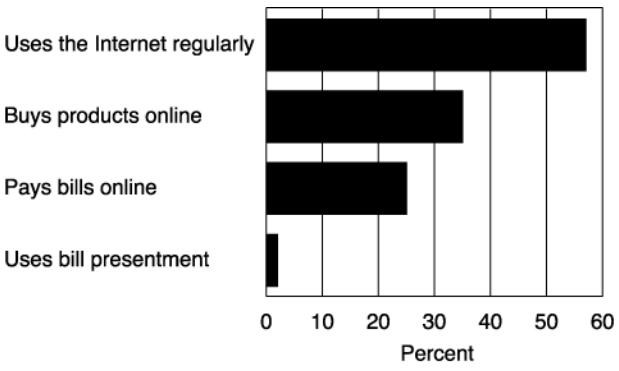
The biggest threat to mail posed by these Internet technologies lies in the increasing comfort of middle-class Americans with online activities, such as sending and receiving e-mail, information gathering and processing, and conducting transactions, and the subsequent threat to administrative mail posed by electronic substitution. Administrative mail is a complex mail stream that includes three very important kinds of mail 1) transactions and payments; 2) presentment of bills and statements; and 3) commercial correspondence which can include orders, confirmations, invitations,

announcements, and notices. It is the electronic substitution of paper-based and mailed payments, bills, statements, and other documents that threatens to reduce mail volume in the future.

Today, the payment stream has seen the most electronic substitution. The basic driver for this is that the full cost of processing a digital payment is between one-third and one-half that of a paper-based payment. In addition, many bill payers, both consumers and businesses, find increased speed and convenience with digital payments. Over the last five years, businesses and consumers have started moving toward digital payments at a steady pace, with 25% of consumers reporting that they pay at least some bills online today.

But payments are just one part of the administrative mail stream. Another important contributor is the presentment of bills, statements, and other forms of correspondence. To date, we have yet to see any significant numbers of consumer or business adoption of electronic presentment in a world where consumers are becoming increasing comfortable online (see Figure 1). Whereas almost 60% of the population uses the Internet regularly, a third make purchases online, and a quarter pay at least some bills online, only 2% use electronic bill presentment.

Figure 1
Consumers Are Becoming Comfortable With Many Online Activities
(Percent of total U.S. population that ...)



Source: Pew Internet and American Life Project, Jupiter, eMarketer, NFO, Gartner.

While paying some bills online is a relatively simple task, there are a number of factors that have slowed the penetration of the more complex process of electronic presentment and document delivery. The complexity of these factors illustrates the set of

issues that must be resolved before electronic presentment becomes a common activity and truly threatens mail volumes.

- Secure and easily accessible billing sites are expensive to set up and many businesses will find it hard to underwrite the cost of such set-up when they know it may be years before the savings will offset the initial cost.

- In managing their finances, consumers are hesitant to lose some key tools of household management—reminders, printed copies, accessible records for sharing—by using an integrated electronic payment and presentment. system. Such systems may not offer increased convenience either, as some consumers will have to perform "extra" steps, such as remembering when bills are due, checking e-mail to look for reminders or statements, or printing copies of transactions for future reference.

- Consumers are also hesitant to go through the major task of setting up bill paying and presentment systems because they fear having to do it all again if they choose to change their provider.

- There are a number of parties that have an interest in getting customers to their Web sites on a regular basis—banks, product and services providers, and third-party aggregators. But there is no consensus among these parties as to who will cover what part of the system costs.

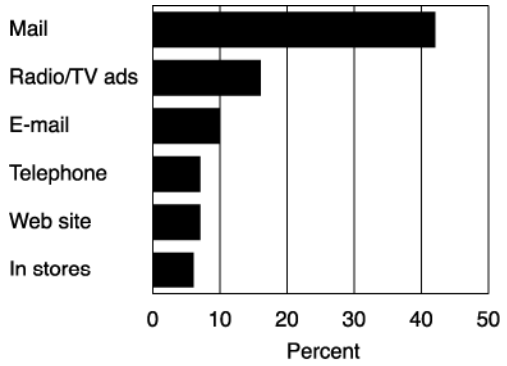
- There are no standards for formats and presentation, which make it difficult for small businesses to exchange a range of documentation online and makes it harder for consumers to use multiple services or switch providers.

- Many businesses do not want to move to electronic presentment because they find that regular correspondence (the monthly billing cycle for example) is an ideal way to build a relationships with customers, using inserts in mailed pieces that provide other information, invitations to new services, and notices.

- Businesses are also well aware that mail remains the preferred means for consumers to receive information from companies (see Figure 2).

- The dearth of integrated payment and presentment Web sites that can present statements and the like from a variety of providers is frustrating consumers who are looking for convenience and want to visit a single Web site to view and pay bills online.

Figure 2
Mail Is the Preferred Medium for Business Communications to Households
(Percent that say … is their preferred way to receive messages from companies)



Source: Institute for the Future, U.S. Household Survey 2002.

All of these factors add up to some hesitancy for consumers—and small businesses—to adopt electronic bill presentment. While individuals have adapted to all kinds of new ways of searching and gathering information, making inquiries, and even purchasing on the Internet, the interest in online bill presentment has been surprisingly slow to build (see Table 1).

Table 1
Consumer Interest in Electronic Statements Remains Tepid
(Percent of all adults in response to the question "Assuming you had a computer, how comfortable would you be receiving your monthly bank statements and bills electronically?")

	1997	*2000*	*2002*
Very comfortable	11	16	20
Somewhat comfortable	17	20	19
Not too comfortable	22	18	15
Not at all	46	46	46

Source: Institute for the Future, U.S. Household Surveys.

Moving forward, there are many factors to weigh before forecasting the scale of the threat that electronic payments and presentment mean for administrative mail

volumes. There is clear evidence that many people are switching to digital payment methods, but growth in the number consumer showing interest in bill presentment is much slower. The wide range of interests, complex infrastructure issues, who takes the initiative, who pays, and how the rewards are divided further complicate the administrative mail environment. But all told, we expect a steady stream of payments and some bill presentment to shift to digital formats over the next eight years, possibly as much as 20% of the current level. There is not likely to be a dramatic and sudden shift, and the decline is likely to be partially offset by modest growth in commercial correspondence, if businesses find that the public continues to favor mail as a means of commercial communications.

Emerging Information Processing Technologies

There is a second cluster of digital technologies that will influence mail through 2010. These emerging technologies will increase businesses' capabilities to interact with consumers, and they will be deployed in both in the home and in the retail environment.

In the home, interactive TV will appear in many formats, such as video on demand, interactive program guides, and digital video recorders. Interactive TV gives consumers more control over what they watch and when they watch it. The interactive nature of these technologies also enables the collection of data on who is watching what. This data in turn helps companies learn the viewing interests of individuals or groups of customers—information that can later be used to send targeted ads to these customers, through TV ads or mailed advertisements, for example.

In the retail environment, there are a range of emerging technologies that will enable more personal or secure interactions with consumers. Such technologies include biometric identification, display technologies like light-emitting polymers; very small and cheap radio-frequency identifiers; soft tags or electronic identifiers that allow sharing of gathered data across the Web in standardized formats; and intelligent algorithms that allow identification of important patterns of activity in very large data clusters. Each of these technologies will help deliver relevant information to consumers and will let consumers activate information flows that are of special interest to them. For example, a loyalty card and other identifier will instruct interactive labels and information displays to display relevant information to that individual shopper.

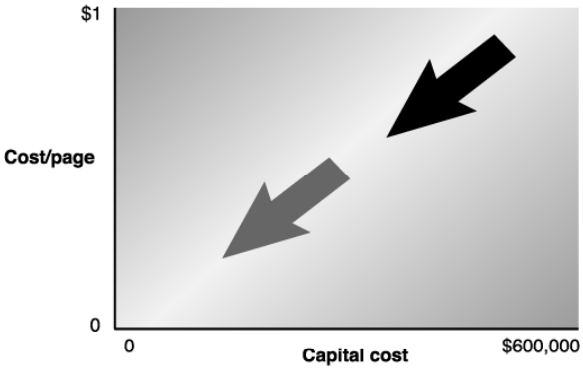
The cost of these interactive technologies is falling dramatically and will encourage their wide use. Look for companies to share more information with interested consumers and, at the same time, gather more information about individual and groups of consumers that will allow for much more tailored and targeted follow-up communications. There will be a great opportunity for mail to be one of the primary means delivering targeted and tailored responses.

Digital Printing Technologies

The third cluster of digitally-based technologies that will influence the mail stream are in the printing arena. The most important printing technology is variable data printing (VDP), which allows images to be captured and stored as a digital file on a computer and re-imaged every time a copy is made. While VDP presses have been around for a decade, there is a new generation of them emerging that will allow high quality printing to be more tailored to customers' needs, produced in smaller batches at decentralized locations that are closer to the ultimate user, and printed on an as-needed basis. VDP allows for documents to be customized down to the small group or individual level—thus adding considerable value to the printed page. VDP technologies combined with the information gathering technologies promise a marked increase in response rates to commercial communications.

While the costs of VDP presses are currently high and their availability limited, new generations of equipment are coming out which are pushing per page cost down on the order of 7-10% per year. Over the decade, VDP presses will become much more competitive with offset printing (see Figure 3).

Figure 3
Full-Color Variable Data Presses Are Becoming More Cost Competitive



Source: Institute for the Future and market quotes.

The new printing technologies will provide an ideal fit for businesses that can connect newly emerging customer databases with the clear benefit of reaching small groups of consumers with targeted, tailored, and timely messages.

LESSONS FROM TECHNOLOGY

New technologies bring threats and opportunities. The key lesson from studying the impacts of information technologies for 30 years is that technologies work when they meet the needs of groups of businesses, consumers, and infrastructure players. It takes positive action from many players to put together relevant applications that create new businesses. It is a hard and complex task to put together the right set of infrastructure needs at the right time to create relevant opportunities, but there are continual stories of success from the mail industry in the 1970s, to the new office environment of the 1980s, to the online revolution of the 1990s, to the mobile communications booms of the early 2000s.

In each case, a number of key industry players combined technology, support, marketing, and customer services into applications that created new habits of behavior. If the U.S. Postal Service is to meet the challenges of the digital age—and to be able to respond to both the threats and opportunities that embedded in those technologies—it, like other participants, needs to be able to invest, venture, partner, adapt, shift resources, and offer products and services that allow consumers and businesses to change their accustomed way of doing things. The magnitude of the threats and opportunities posed by digital technologies are largely dependent on the actions of key players.

THE MAIL STREAM IN 2010

Overall, any forecast for change can only be a scenario dependent upon the action of players in the field. We think that the opportunities presented by digital technologies will outweigh the threats and total mail volume will increase (see Table 2). Electronic substitution presents the biggest and most obvious threat to administrative mail, which is expected to decline at an annual rate of just over 1% in the second half of the decade as many banks, service providers, small businesses and consumers all shift behaviors to take advantage of convenience and lower cost. But new printing and information gathering and processing technologies, a clearer focus on the information needs of smaller groups

of consumers, and a continuing consumer preference for mail should drive a healthy increase in advertising mail, which is expected to increase at 3.4% annual in the second half of the decade. A flexible system should create continuing new roles and challenges for paper-based mail.

Table 2
Mail Volumes in United States Will Grow Modestly Through 2010
(Average annual percent change)

	Total	*Administrative Mail*	*Advertising Mail*	*All Other Mail*
1990–00	**3.0**	3.2	3.1	1.7
2001–02	**-1.2**	0.0	-2.0	-0.7
2003–04	**0.9**	0.1	1.3	1.2
2005–10	**1.6**	-1.1	3.4	2.0

Source: Institute for the Future

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